REMARKS

Claims 15-19 and 25-26 are pending. Claims 1-14 and 20-24 have been withdrawn from consideration and are cancelled herein without prejudice or disclaimer. Claims 15 and have been amended herein. Support for the amendment is detailed below. New claims 25 and 26 have been added herein. New claim 25 is comprised of original claim 15 and claim 16. New claim 26 is comprised of original claim 15 and claim 18.

Applicants Response to the Rejection under 35 U.S.C. §103(a)

Claims 15-19 stand rejected under 35 U.S.C. 103(a) as being unpatentable over **Ahn Doug Hul** (Japan Publication No. 2002-203895) in view of **Heo *et al.*** (US Patent Publication No. 6,683,354. In response thereto, applicants have amended claim 1 to more distinctly claim the subject matter regarded as the invention. Specifically, applicants have included the requirement that the first and second silicon oxide films are in direct contact with the silicon nitride film. Applicants respectfully submit that neither **Hul** nor **Heo** teach or suggest this feature.

Hul and **Heo** disclose a thin layer of high temperature oxide 109 (**Hul**) and 17 (**Heo**) deposited over the silicon nitride liner. **Heo *et al.*** describes the HTO as a liner to protect the silicon nitride liner 15. See Column 3, lines 44-64. **Hul** refers to the HTO oxide film as a thinly formed buffer oxide film. See paragraph [0026].

In **Heo *et al.*** the HTO layer is densified in order to lower its etch rate in comparison to the first buried layer 21. The HTO layer remains in the trench 17' and protects the silicon nitride layer 15 during a HDP-CVD process for forming the second silicon oxide layer 25. **Heo** states that without the HTO layer the silicon nitride layer would be damaged by plasma. See column 5, lines 1-13. Both **Hul** and **Heo** teach forming a HTO 109 (**Hul**) and 17 (**Heo**) between the silicon nitride liner, 107 (**Hul**) and 15 (**Heo**) and the final oxide films 129, 139 (**Hul**) and 23, 27 (**Heo**).

Contrary, the present invention, pursuant to amended claim 15, does not teach the formation of a HTO on the silicon nitride liner. The silicon oxide film 9a is formed in direct contact with the silicon nitride liner 8, by HDP-CVD or SOG. Page 11, line 23 to page 12, line 5. As the width of the isolation trench becomes narrow with the increase of integration density, it becomes difficult to fill the trench. By employing the first and second oxide layers in direct contact with the silicon nitride layer and avoiding the additional films of **Hul** and **Heo** it is possible for the present invention to embed a trench having a width of 100nm or less, such as set forth in claim 19. Wherefore, applicants respectfully submit that the present invention of amended claim 15 is not taught nor suggested by the cited references and respectfully request favourable reconsideration.

In regard to claim 16, now also independent claim 25, the Office Action maintains that it is within routine skill in the art to select a parameter, such as the depth recited in the claim. Applicants respectfully traverse. Specifically, Fig. 1A of the current application illustrates the relation of drain current vs. the amount of retraction (recess) of the silicon nitride film from the

semiconductor surface. The retraction of the 80-150nm provides enhanced drain current which is not suggested by any prior art reference. This is a surprising and unexpected result. Wherefore, applicants respectfully submit that the parameter of claim 16 is not routine skill in the art.

In regard to claim 18, now also independent claim 26, applicants have amended the claim to more distinctly claim the subject matter regarded as the invention. Specifically applicants have defined the second silicon oxide film as extending over a corner and to an upper surface of the active region. The second oxide film 139 of **Hul** does not cover the shoulder region but only slightly overlays the very end of the shoulder. However, the current invention per claim 18 and pursuant to Fig. 4D illustrates a larger shoulder portion 5h extending onto the surface of the substrate 1. According to the specification, page 17, lines 11-16, the shoulder region 5h of the action region is covered with the burying silicon oxide 9. Wherefore, applicants respectfully submit that amended claim 18 is not taught nor suggested by the prior art.

In view of the aforementioned amendments and accompanying remarks, Applicants submit that that the claims, as herein amended, are in condition for allowance. Applicants request such action at an early date.

If the Examiner believes that this application is not now in condition for allowance, the Examiner is requested to contact Applicants' undersigned attorney to arrange for an interview to expedite the disposition of this case.

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

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